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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,166	08/01/2003	Osamu Ueda	1232-5096	4594

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EXAMINER

HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
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2622

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07/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/633,166	UEDA ET AL.	
	Examiner	Art Unit	
	Timothy J. Henn	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02 July 2007 have been fully considered but they are not persuasive.

In regards to claim 1, Applicant argues that Hirota does not disclose a second mode of operation that can output signal charges in "an unmixed or a mixed signal" (e.g. pages 5-8. However, as recognized by Applicant Hirota does disclose a second mode which outputs a mixed signal. Since claim 1 is written in the alternative (i.e. "or"; requiring a second control mode which uses one of a mixed signal and an unmixed signal but not both), Hirota meets the limitations as claimed by disclosing a second mode which outputs a mixed signal. Therefore, the rejections based on Hirota and Nozaki will be maintained.

Drawings

2. The drawings were received on 02 July 2007. These drawings are accepted.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 2001/0043275) in view of Nozaki (US 7,046,290).

[claim 1]

Regarding claim 1, Hirota discloses an imaging apparatus comprising: an image pickup device having an imaging area in which a plurality of light receiving elements are two-dimensionally placed (Figure 2, Items 11); and a controller (Figure 42, Item 96) having a first mode adapted to output picture data from a first area in the imaging area (Paragraph 0063, normal imaging mode), a second control mode adapted to output the picture data by using the signal from a second area smaller than the first area (Paragraph 0063; high-speed imaging mode), exerting control so that, in the case of the first control mode the picture is outputted by the signal having mixed the signals of the plurality of the light receiving elements (Paragraphs 0077-0078), and in the case of the second control mode, the picture data is outputted by the signal having mixed the signals of the plurality of light receiving elements less than the number thereof mixed in the case of the first control mode (Paragraphs 0084-0086). However, Hirota does not disclose an optical zoom device or control according to use of the optical zoom device.

Nozaki discloses a camera including an optical zoom (Figure 3, Item 11; c. 5, ll. 32-34) and electronic zoom device (Figure 7; c. 8, ll. 20-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an optical an electronic zoom as taught by Nozaki in the camera of Hirota to allow a user to zoom in/out on a scene to capture a desired image. Nozaki discloses that an area smaller than the full area of the image sensor should be read out when

operating an electronic zoom (i.e. not optical zoom; c. 8, ll. 32-37). Therefore, it would be obvious to use the first mode (i.e. normal readout mode) of Hirota when operating an optical zoom device and the second mode (i.e. high-speed readout mode) of Hirota when operating the electronic zoom device to zoom in on a scene.

[claim 2]

Regarding claim 2, Hirota discloses a third control mode adapted to output the picture data by using the signal from a third area smaller than the second area (e.g. Paragraph 0072; setting $n=2$ results in a 25-fold speed increase by reading out a smaller area of the image sensor), the signal having mixed the signals of the plurality of light receiving elements less than the number thereof mixed in the case of the first control mode (e.g. Figure 5; Paragraph 0072). However, Hirota in view of Nozaki does not disclose outputting signals of a plurality of lines by thinning out the signals in the second control mode. Official Notice is taken that thinning out signals results in improved readout and image processing speed and is useful for performing operations such as auto-focus, auto-exposure and providing electronic viewfinder display data to allow a user to frame and preview the image before capture. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include thinning out the signals to perform operations such as auto-focus, auto-exposure and image display for preview rapidly.

[claim 3]

Regarding claim 3, Hirota discloses a timing signal generator for driving the image sensor to mix and transfer the signal charges (e.g. Figures 6-9; Figure 42, Item

96). The examiner notes that to change the timing signals between the first mode and the second mode a "timing signal control device" as claimed must inherently be present.

[claim 4]

Regarding claim 4, Nozaki discloses a zoom operation control device for a user to operate expansion or reduction of the picture data (Figure 1, Items 3 and 4; c. 4, ll. 39-42). Hirota discloses a high-speed readout system which makes use of a "scaling factor" (i.e. n ; Figure 5) while Nozaki discloses determining a readout area based on operation of an electronic zooming device (c. 8, ll. 32-37). Therefore, it would be obvious to determine the scaling factor of Hirota based on operation of the zoom operation device as taught by Nozaki.

[claim 5]

Regarding claim 5, Hirota in view of Nozaki discloses determining a scaling factor based on operation of the zoom operation device (see claim 4). Therefore, Hirota in view of Nozaki would inherently determine a reduction scaling factor and an expansion scaling factor as claimed since Nozaki discloses control of both a reduction (i.e. zoom down) and expansion (i.e. zoom up) operations (c. 4, ll. 39-42).

[claim 6]

Regarding claim 6, Hirota discloses system which controls readout to mix and transfer charges of the light receiving elements equal to the number of mixed pixels in the area according to the processing scaling factor (i.e. n ; Figure 5) of the image pickup device.

[claim 7]

Regarding claim 7, Hirota in view of Nozaki discloses a system comprising a zoom operation device for a user to operate expansion or reduction of the picture data (Nozaki; Figure 1, Items 3 and 4; c. 4, ll. 39-42); an optical zoom control device adapted to control the operation of the optical zoom device according to the operation of the zoom operation device (Nozaki; c. 6, ll. 59-64) and a controller which determines the processing scaling factor according to a process of the optical zoom device and the operation of the zoom operation device (Nozaki; Figure 7; c. 8, ll. 20-37; Hirota; n; Figure 5).

[claim 8]

Regarding claim 8, Nozaki discloses a system in which the readout area is selected according to a zooming operation (c. 8, ll. 32-37) and Hirota in view of Nozaki discloses selecting a scaling factor according to the zooming operation (see claim 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select a scaling factor appropriate for a state wherein the optical zoom device is on the furthest wide-angle side and further reduction is ordered (i.e. setting a scaling factor to readout the entire imaging area since the electronic zoom device is not active) and to select a scaling factor appropriate for a state wherein the optical zoom device is on the furthest telescopic side and further expansion is ordered (i.e. setting a scaling factor to readout a smaller area than the entire imaging area since the electronic zoom device is activated; see Nozaki; Figure 7; c. 8, ll. 20-37).

[claim 9]

Regarding claim 9, Nozaki discloses a system in which the readout area is selected according to a zooming operation (c. 8, ll. 32-37) and Hirota in view of Nozaki discloses selecting a scaling factor according to the zooming operation (see claim 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the readout (i.e. generation of timing signals) to mix and transfer the charges of the light receiving elements of an expanded area equal to the number of mixed pixels in the image pickup device (i.e. selecting a readout of the entire imaging area) when further reduction is ordered by a user in a state where the optical zoom device is at the furthest wide-angle side (i.e. setting a scaling factor to readout the entire imaging area since the electronic zoom device is not active; see Nazoki; Figure 7; c. 8, ll. 20-37).

[claim 10]

Regarding claim 10, Nozaki discloses a system in which the readout area is selected according to a zooming operation (c. 8, ll. 32-37) and Hirota in view of Nozaki discloses selecting a scaling factor according to the zooming operation (see claim 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the readout (i.e. generation of timing signals) to mix and transfer the charges of the light receiving elements of a reduced area equal to the number of mixed pixels in the image pickup device (i.e. selecting a readout of a center area according to operation of the electronic zoom) when further expansion is ordered by a user in a state where the optical zoom device is at the furthest telescopic side (i.e. setting a scaling factor to readout a reduced imaging area since the electronic zoom

device is active; see Nazoki; Figure 7; c. 8, ll. 20-37).

[claim 11]

Claim 11 is a method claim corresponding to apparatus claim 1. Therefore, claim 11 is analyzed and rejected as previously discussed with respect to claim 1.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 11-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJH
7/19/2007



LIN YE
SPE. ART UNIT 2622